Message

From: Fennessy, Christopher [christopher.fennessy@Rocket.com]
Sent: 3/19/2018 7:35:20 PM
To: MacNicholl, Peter@DTSC [Peter.MacNicholl@dtsc.ca.gov]; Keller, Lynn [Keller.Lynn@epa.gov]
Subject: RE: [EXTERNAL] FW: Area 40 vapor monitoring
Attachments: Figure 9 from IOU FSP Addendum - data from 2008.pdf; Figure 13 from draft RAP.pdf; September 2017 Soil Gas Data.pdf; December 2017 Soil Gas Data.pdf

Thanks Peter! My responses and thoughts are incorporated below.

Christopher M. Fennessy, P.E.
Aerojet Rocketdyne, Inc.
Engineering Manager, Site Remediation
11260 Pyrites Way, Suite 125
Rancho Cordova, CA 95670
Ph: 916-355-3341
Fax: 916-355-6145
Email: Christopher.Fennessy@Rocket.com

From: MacNicholl, Peter@DTSC [mailto:Peter.MacNicholl@dtsc.ca.gov]
Sent: Monday, March 19, 2018 9:27 AM
To: Fennessy, Christopher; Keller, Lynn (Keller.Lynn@epa.gov)
Subject: [EXTERNAL] FW: Area 40 vapor monitoring

Hi All,

I apologize if Dan did not forward this to the group. This is concerning the additional VI sampling inquiry listed below. Please advise on AR interpretation and future sampling considering these items listed by Dan.

-Pete

From: Gallagher, Dan@DTSC
Sent: Wednesday, March 14, 2018 4:13 PM
To: MacNicholl, Peter@DTSC <Peter.MacNicholl@dtsc.ca.gov>
Subject: RE: Area 40 vapor monitoring

Peter,

I provide the following information concerning the soil gas plume at Area 40.

Spatial footprint of the soil gas plume should be known before remedy selection (we believe that the spatial footprint of the soil gas plume is adequately defined for remedy decisions) so that the final remedy, and its associated cost, can be adequately assessed. The amount of time-series data needed to make this determination should consider the following:

1. Is the soil gas plume expanding due to expansion of the groundwater plume? The groundwater plume has not expanded in any direction except west (onto AR property) for the past 10 years. Attached are a map from IOU FSP Addendum with TCE contours from 2008 and a map from the current RAP showing TCE contours from 2017). Although the background information is different and the definition is a bit different (because of all the new wells installed between 2014 and 2017),

the concentrations in wells available during both events are the same (see wells 31013, 31050, 3812, 816, 3810, 1724, and 30061). As such, the soil gas plume is not expanding (except to the west) due to groundwater plume expansion.

2. What is the current observed temporal variability at individual sampling locations? We do not believe this is relevant to remedy decision. If Aerojet Rocketdyne (AR) were attempting to use the data to recommend not conducting remedy, then this would be relevant; however, since AR is recommending remedy everywhere, the temporal variability prior to remedy is not relevant. We believe we have the plume defined sufficiently for remedy selection and implementation. Remedy requires vapor mitigation beneath all structures constructed in the area, so we really are not concerned with concentrations unless they are above 16,000ug/m3 (the concentration at which vapor mitigation beneath structures would not be sufficient to reduce indoor air concentrations to acceptable levels). Remedy also requires source reduction and post-remedy soil vapor monitoring to confirm that the remedy has reduced the concentration to below 16,000ug/m3 in soil vapor and below 0.48ug/m3 in ambient air prior to beginning construction. We don't believe temporal variability of the data now has an impact on the remedy decision. We do believe that temporal variability needs to be demonstrated following source reduction; however, this sampling plan will not be defined until the Remedial Action Work Plan (RAWP) is prepared.
3. How much data are needed to quantify exposure point concentrations? We do not believe this to be relevant to remedy decision. We are using conservative values to make remedy decisions and have used conservative decisions (eg – no construction until after remedy is complete). This is directly relevant to post remedy decisions as to when construction can begin. The remedy defined in the RAP requires confirmation sampling following the remedy to develop the exposure point concentrations and confirm that these concentrations are acceptable for the intended use prior to construction. The post remedy sampling plan will be defined in the RAWP.
4. Has the soil gas plume been disrupted due to remedial activities and, if so, how long will rebound take? No remedy yet.
5. When will development (surface disruption) of Area 40 occur? Following remedy completion and concluding, based upon post remedy monitoring, that remedy has abated the risk to allow redevelopment in accordance with the LUCs.

Aerojet should consider these issues when designing a soil gas monitoring plan (Agreed. This monitoring plan will be developed in the RAWP, which will likely be submitted in late 2018 or early 2019). Like groundwater, soil gas should be monitored at an appropriate frequency to ascertain long-term contaminant trends (Agreed). I recommend a spring sampling event (May or June) and then follow-up sampling at some appropriate interval. We do not feel that additional soil vapor sampling is needed prior to remedy implementation. We have pre-remedy definition of the plume using multiple temporal events (including September and December sampling events). The remedy defined in the RAP requires confirmation sampling following the remedy to confirm that the exposure point concentrations after the remedy are acceptable for the intended uses prior to construction.

To assist in selecting an appropriate sampling frequency, the data from the September and December sampling events should be provided to DTSC (see attached). The data from both events should be contoured to depict the spatial location of the contamination (see attached). Also, Aerojet should provide an informal response to the above questions.

I'm available to discuss this issue. If DTSC still feels that additional data is needed prior to remedy implementation, would it be possible for Dan to participate at any time between 1pm and 5pm on Wednesday to discuss with team? Otherwise, please feel free to forward this email to stakeholders.

Dan Gallagher, CHG
Senior Engineering Geologist
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826-3200
(o) 916-255-6536
dan.gallagher@dtsc.ca.gov

From: MacNicholl, Peter@DTSC
Sent: Thursday, March 01, 2018 10:08 AM
To: Gallagher, Dan@DTSC <Dan.Gallagher@dtsc.ca.gov>
Subject: FW: Area 40 vapor monitoring

Hi Dan,

I told Chris that I would defer to you on this matter as you're one of our vapor experts. Can you please provide a response to Chris on this matter at your earliest convenience? Thank you.

-Pete

From: Fennessy, Christopher [mailto:christopher.fennessy@Rocket.com]
Sent: Thursday, March 01, 2018 8:13 AM
To: MacNicholl, Peter@DTSC <Peter.MacNicholl@dtsc.ca.gov>
Cc: MacDonald, Alex@Waterboards <Alex.MacDonald@waterboards.ca.gov>; Keller, Lynn (Keller.Lynn@epa.gov) <Keller.Lynn@epa.gov>
Subject: Area 40 vapor monitoring

Hi Peter – As you know, AR has been conducting quarterly monitoring of existing vapor monitoring wells at Area 40 at the request of DTSC. We collected a dry season in September and a fall/winter season in December. Knowing that we have bounds on the worst cases and we have selected a remedy that addresses the vapor, what information will the Spring data provide? I think the appropriate approach is to hold off on any additional sampling until the remedy is implemented and then begin quarterly sampling again. We will compare post remedy concentrations to the data we already have to evaluate effectiveness. What are your thoughts? Chris

Christopher M. Fennessy, P.E.
Aerojet Rocketdyne, Inc.
Engineering Manager, Site Remediation
11260 Pyrites Way, Suite 125
Rancho Cordova, CA 95670
Ph: 916-355-3341
Fax: 916-355-6145
Email: Christopher.Fennessy@Rocket.com